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CERCLA Cleanup 2018.08.14 Comments to Draft Parcel G Work Plan

Golden Gate University School of Law

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FROM: **Greenaction for Health and Environmental Justice**
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RE: **Comments to the *Draft Parcel G Removal Site Evaluation Work Plan, Former Hunters Point Naval Shipyard, San Francisco, California, June 2018***

DATE: **August 14, 2018**

I. INTRODUCTION

The Environmental Law and Justice Clinic of the Golden Gate University School of Law submits these comments to NAVFAC's *Draft Parcel G Removal Site Evaluation Work Plan, Former Hunters Point Naval Shipyard, San Francisco, California, June 2018* ("Draft Plan"), on behalf of Greenaction for Health and Environmental Justice and its members and constituents in Bayview Hunters Point, San Francisco and throughout California.

We are disappointed, to say the very least, with the Draft Plan, which demonstrates that the Navy has learned little during its six-year journey from denying the scope of Tetra Tech's fraud to reluctant acceptance that all Tetra Tech's work must be redone. In 2012, when the Navy learned of Tetra Tech's fraud, the Navy did nothing meaningful to discover the extent and depth of the fraud; and this Draft Plan again shows the Navy contemplates no changes to business-as-usual – that is, what got them into the Tetra Tech mess in the first place. The Navy claims it wants to repair its badly battered

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relationship with the community, but in practice it continues to take actions, like this Draft Plan, that can only further erode trust.

The Parcel G Work Plan is not a good-faith effort to investigate radiological contamination. Rather, it relies on untrue assumptions, weakens cleanup standards and withholds crucial information on which it is based, apparently in a multi-pronged effort to justify minimizing the cleanup despite the massive fraud.

We urge the Navy to go back to the drawing board and come up with a realistic plan to resample all of Tetra Tech's work – to start over – as the fraudulent data requires and as the Navy promised. And we urge the regulators to reject this Draft Plan as inadequate.

II. PROCEDURAL COMMENTS

A. The Public Comment Period Cannot Close Until at Least 30 Days After the Navy Makes Available All Documents on Which the Draft Plan Relies

Documents that are essential to understanding the Draft Plan are being withheld by the Navy. As the Draft Plan concedes, "The activities presented in this work plan will be conducted in accordance with this work plan, a separate sampling and analysis plan (SAP), and a separate accident prevention plan/site safety and health plan (APP/SSHP). The SAP and APP/SSHP are currently being updated for submittal following this work plan." (emphasis added, p. 1-1).

It is astonishing these essential documents have been withheld from the Draft Plan. How can the public or regulators comment on a work plan calling for extensive sampling without the sampling plan? According to the Draft Plan, the SAP contains crucial information on Quality Assurance and Quality Control (QA/QC), the bedrock of

data validation. If the Navy has its way, this Draft Plan's comment period will end before the SAP, including its design for data validation, is even released.

The Draft Plan itself demonstrates how the plan cannot be evaluated without the essential documents on which it relies. Although it does have a section on Radiological Investigation Design, for example, it leaves essential details to the SAP: "The SAP provides additional guidance on soil sampling, chain-of custody, laboratory analysis, and quality assurance (QA)/quality control (QC) requirements" (p. 3-4). Any "additional guidance" about such essential matters as sampling, chain-of-custody and QA/QC must be provided to fully analyze the Draft Plan.

Similarly, the Draft Plan states, "[t]he analytical methods and the radionuclides being analyzed for will be presented in the SAP and are summarized in Table 3-6." (p. 3-6) But when one looks at Table 3-6, it lists no analytical methods. Rather, the paragraph before the table says gamma surveys "will be performed using detector systems equipped with gamma spectroscopy," without identifying any such systems. The unavailable SAP will presumably specify which systems will be used, and will provide "additional guidance" on a range of important issues, specifics the public does not have access to and are precluded from commenting on.

Likewise, page 3-8 of the Draft Plan states, "[t]he laboratory instruments used to analyze the soil samples and the associated standard operating procedures (SOPs) for calibration, maintenance, testing, inspection, and QA/QC are discussed in the SAP." How can anyone comment on these topics absent filling in the blanks of how the analyses will be done and how QA/QC requirements will be met?

Among other things, the Draft Plan defers to the SAPs: soil samples which "will be submitted to the offsite analytical analysis <u>according to the SAP</u>" (p.3-8); "systematic and bias samples will be containerized, labeled, and analyzed, <u>as described in the SAP</u>"

(p. 3-15); "soil samples will be containerized and submitted to offsite laboratory with appropriate chain-of custody documentation as established in the SAP" (p 3-15); "samples will be identified, labeled, and cataloged according to the SAP" (p. 3-19); "corrective action reports, data validation reports, quality assurance management reports, and assessment reports are discussed in the SAP" (p. 4-4). (emphasis added in each case). These are but a few of the details deferred, there are more examples.

Perhaps the most important example is this: "Analytical data validation will be performed by an independent third party as described in the SAP. Data validation will be performed on all TU/SU [trench unit/survey unit] data and all RBA [reference background area] data" (p. 5-1). Data validation goes to the heart of proving the data aren't falsified, unlike in the past. It is imperative that we be given the information necessary to comment on the adequacy of the data validation plans.

Furthermore, there is not a single separate SAP. In fact, according to email correspondence between counsel, there may be as many as seven SAPs, all being withheld, each possibly detailing a different approach to the critical subjects left to the SAPs.

Greenaction's counsel have given repeated written notice to the Navy that the SAPs are essential to understanding and commenting on the Draft Plan and have repeatedly asked the Navy to supply them. To date, the Navy has refused not only to provide the documents, but even to indicate when they might be released.

The Draft Plan relies on numerous other documents that are not available. For example, the Navy attributes its unbelievable claim that 80% of remediated soil didn't really need to be remediated, to a single report by the Argonne National Laboratory, *Radiological Waste Evaluation Associated with Various Base Realignment and Closure Activities* (2011). This document is not available through NAVFAC's and the regulators'

online document repositories, nor was it readily accessible via a Google search. Hard as it is to believe, the Final Parcel G ROD is not available on NAVFAC's website either. Nor does the Navy website contain any of the five Tetra Tech documents referenced in the Draft Plan. Among them are the *Basewide Radiation Management Plan,* Feb. 3, 2012, which is heavily relied on by the Draft Work Plan and the *Final Status Survey Results, Building 401*, Sept. 21, 2009; that building is the proposed site of background sampling despite evidence of radiological impact in at least one section of the structure.

As a result of the Navy's failure to make available documents essential to understanding and commenting on the Draft Plan, the Navy has failed to fulfill its public participation obligations; it has failed to provide "sufficient information as may be necessary to provide a reasonable explanation of the proposed plan and alternative proposals considered," as required by 42 U.S.C. § 9617.The comment period must therefore be extended to at least 30 days after the Navy releases all documents on which this Draft Plan relies.

III. SUBSTANTIVE COMMENTS – General

A. The Navy Must Live up to Its Repeated Promises

The Navy has publicly and repeatedly promised it will retest all areas where Tetra Tech worked. The Draft Plan, however, contemplates no such thing. In fact, it calls for resampling only about one-third of the trench units and only half the Tetra Tech survey units: "Twenty-one of the 63 former sanitary sewer and storm drain TUs were selected for the Phase 1 investigation. Fourteen of the 28 surface soil SUs from the Buildings 317/364/365 Former Building Site and Building 351A Crawl Space were selected for the Phase 1 investigation" (p. iv).

This Draft Plan is in direct, irreconcilable contradiction to the Navy's public promises. The Draft Plan omits them despite the fact they were made at more than one public meeting, including a Board of Supervisor's Committee hearing.

The Navy must explain this dramatic about-face, and it must live up to its promises to resample all of Tetra Tech's work. Unless it does, it is quite likely that excessive levels of radioactive contamination will remain at the shipyard for generations to come.

B. There Are No Plans For Third Party Observation to Assure Fraud Is Not Repeated

The Draft Plan ignores some history and misstates the history it addresses. Resampling is only being done because Tetra Tech's fraud requires that it be redone. The Navy spent more than a year trying to avoid having to fully redo Tetra Tech's work, hoping its data review could verify the bulk of Tetra Tech's data. But it did the opposite, actually verifying the whistleblowers' testimony. And EPA's review found about double the problems the data review did. Under the circumstances, the Navy had no choice but to finally agree to discard all Tetra Tech's data.

Tetra Tech committed fraud. But the Navy is culpable too. It allowed the fraud to take place for years, right under its nose. So did the regulators. They have thus far proven incapable of the kind of supervision necessary to assure history does not repeat itself. Accordingly, the Draft Plan must contain provisions for third-parties unassociated with Tetra Tech or the re-sampling contractor(s), to observe and document the resampling activities. As detailed further below, the Draft Plan must add a "Verification Subcontractor" whose role will be to prevent fraud through direct observation and videotaping of all activities (See section IV.D.1).

C. The Navy Must Address the Production Pressure Issue

The statements of whistleblowers and the admissions of Tetra Tech supervisor Justin Hubbard, who pled guilty to federal charges, was that a primary driver of Tetra Tech's fraud was pressure from above to get the job done under budget and on time. According to these witnesses, this pressure started with the Navy, which pressured Tetra Tech to meet schedules despite changes of circumstances that, if handled properly, would have inevitably caused significant delay. In turn, Tetra Tech pressured its top onsite management and that burden was transmitted through Health Physicist Supervisors to the whistleblowers who committed the fraud.

The fixed-price nature of the contract also created compelling incentives to cheat, according to witnesses. Fixed price contracts lead bidders to reduce the price as much as possible, and maybe even more, to provide a competitive edge. Fixed price contacts punish companies that find they have to do extensive work to do it right and rewards companies with windfall profits if they cheat and get away with it.

The Draft Plan does not reduce or remove these negative incentives, it simply ignores them. The Navy should look to itself and identify any and all ways its actions could have provided incentives for fraud in order to prevent its recurrence. Like the requirement for third-party observation, the plan should acknowledge the problem, discuss the impact incentives may have on the execution of the work plan and describe appropriate steps that will be taken to minimize that impact.

D. The Navy Must Revise the HRAs, ROD and ROCs

The Parcel G ROD is out of date and inaccurate. It must be revised to reflect the actual on-the-ground post-fraud reality, particularly that improperly remediated

soil cleared for use as backfill, relying on fraudulent data, contaminated areas of the shipyard that were not previously contaminated, including in Parcel G.

The Draft Plan relies on the Conceptual Site Model (CSM), which, in turn, relies on the Historical Radiological Assessments (HRAs): "The CSM is based largely on the Historical Radiological Assessment (NAVSEA, 2004)."

But the HRAs are inconsistent with what we now know. The failure to include the most up-to-date facts renders the HRAs inaccurate and therefore misleading. For example, the HRAs claim Parcel A was not radiologically impacted except for one building that was demolished. To the contrary, we have recently brought both eyewitness and documentary proof to the Navy and regulators that it was contaminated; samples from both the former sanitary and storm water sewer systems revealed elevated levels of radiation that should have been investigated further but were not.

Another example relates to whether uranium should be a radionuclide of concern (ROC). The Navy dismisses uranium as an ROC. But long-time residents who worked at the shipyard, or who had family members who did, have alleged for years that uranium was used there just as carelessly as other radionuclides. They also say experiments with depleted uranium took place. This information is readily available to the Navy, but they never sought it. Since the Navy's plan relies heavily on the assertion uranium is not an ROC, this potential flaw could be significant. There may be other ROCs that have been omitted from testing based on the inaccurate HRAs; the ROC issue must be revisited.

Neither the HRAs nor the Parcel G ROD could possibly have included any information supplied by the whistleblowers since both documents predated them

coming forward. Their information must inform the radiological investigation. The whistleblowers uniformly state that fraudulent soil remediation resulted in potentially still-contaminated soil being used as backfill throughout the shipyard; this spread contamination to locations that were not previously impacted. Yet reliance on the HRAs ignores this crucial evidence as well as the rest of the untapped whistleblowers' knowledge that the Navy refuses to pursue.

Furthermore there are radically different circumstances than when the Parcel G ROD was adopted. The most significant change has been a complete transformation in the intended use of the parcel. Until just a couple years ago, only a small corner of Parcel G was to be cleared for residential use. However, in 2016, after consideration of the *Feasibility Assessment for Evaluating Areas with Residential Land Use Restrictions, Parcel G*, Nov. 30, 2016, residential use is now permitted throughout the entirety of Parcel G. The implications of this change could not have been factored into either the ROD or the HRAs since they were written years earlier. Now that the Parcel G radiological work needs to be redone, it would be foolish for the Navy and regulators to blind themselves to the current state of reality and pretend they were stuck in yesterday's world.

The HRAs and the major planning documents that rely on them, like the ROD, must be updated to accurately reflect the current state of knowledge about radiological contamination at the shipyard. Only then can cleanup planning rely on them.

E. The Navy Is Improperly Changing Remediation Goals

Remediation goals (RGs) are the standard used to determine if remediation is necessary. Generally, if a sample analysis exceeds an RG this alone is sufficient to determine that cleanup is required. An exception is for radium-226, which allows adding

background levels to the RG. We believe it is an inappropriate exception insufficiently justified by the Draft Plan. Incredibly, however, the Navy's lack of clarity seems to make the exception the rule; all ROCs will be deemed to be compliant as long as they are below the background radiation level PLUS the RG.

This is suggested in Table 3-2, which lists Residential Soil Remediation Goals. Footnote "a" states, "All RGs will be applied as concentrations above background." (emphasis added.) As we note in Section III.D., virtually all of Parcel G is now approved for residential use. The Navy must clarify whether it intends this change and if so, go through the appropriate process to do so.

F. Background Sample Locations Are Inappropriate

The Draft Plan fails to recognize the history of blunders and fraud in sampling and analyzing background reference samples. According to witnesses, for years Tetra Tech had rad techs go to the officer's club parking lot on Parcel A to obtain background samples. However, witnesses say the samples were from an area that had extensive amounts of "black" sand, some of which contained radiological contamination from use for sandblasting warships used in Operation Cross Roads. This history call into question all background samples taken from Parcel A. Based on the recollections of people who worked in at the shipyard decades ago, future public health and safety would be better served by assuming all of the shipyard is radiologically impacted unless proven otherwise than by assuming the shipyard is clean until proven otherwise.

Background levels should not be obtained from the shipyard because the historical record shows, if the Navy would only look, that there is no place on the shipyard which can reliably be said to have never been impacted. Rather, after geologic study,

backgrounds should be obtained from areas nearby that have similar stone and soil composition, with no radiological history.

Furthermore, as amplified below, the proposed location of building background sampling is in a radiologically impacted building. There must be better choices. (See Section III E.)

IV. SUBSTANTIVE COMMENTS - Specific

A. The Description of the Factual Background Is False

The Navy continues its willful blindness to the best resources available to pinpoint the fraud's impact on the cleanup, the whistleblowers. We have been urging the Navy for more than a year to interview them to help target the resampling. The Navy has refused, essentially saying, "It's not our job." It is the Navy's job.

No resampling plan for Parcel G or any of the other parcels should proceed without prior investigation by the Navy of what former HPNS rad workers know about the fraud committed in that parcel.

Furthermore, the Background section of the Executive Summary states: "An independent third-party evaluation of previous data found evidence of manipulation and falsification at Parcel G (Navy, 2017, 2018). As a result, the Navy developed this work plan to investigate radiological sites in Parcel G."

This statement omits significant history. The third party evaluation did not arise out of nowhere; it was the Navy's response to sworn statements adduced by Greenaction and its counsel by former radiation workers at HPNS. They detailed their participation in massive radiological fraud including soil-sample tampering, fraudulent building scanning, data falsification and fraudulent soil remediation, among other

things. Furthermore, the Draft Plan ignores the fact that while the third-party evaluation identified "only" 49% of survey units (SU) with suspect data, EPA's review found nearly double that, an astonishing 97%! By failing to acknowledge how the fraud came to light, the Navy omits significant facts that should inform the plan to resample Tetra Tech's work.

B. Section 1 – Introduction The Project Purpose Is Too Narrow

In addressing background samples, the Project Purpose states, "Additional reference background areas will also be identified to confirm, or update as necessary, estimates of naturally occurring and man-made background levels for ROCs not attributed to Naval operations at HPNS" (p. 1-1).

It purports to exclude "man-made background levels for ROCs not attributed" to the Navy. But it fails to define the internally contradictory term, "man-made background levels;" by definition, man-made background levels are not background levels. Nor does it provide any evidence that "man-made background levels" of radiation not attributable to the Navy actually exist at the shipyard.

If what the Navy means is that it will not remediate in a manner that would protect public health by claiming certain existing radiation is "man-made background," it should admit it. If the Navy has evidence that "man-made background" contamination exists, it must provide it. In any case, remediation of all man-made radiation above cleanup levels is required. Accordingly, the Project Purpose should be expanded to provide a full explanation of how background levels will be measured, where they will come from and what impact those measurements will have on the cleanup.

C. Section 2 - The Conceptual Site Model Is Inaccurate and Out of Date

a. Failure to Acknowledge the Extent of the Fraud

Like the rest of the Draft Plan, the Conceptual Site Model consistently minimizes the fraud. If the Navy took the proof of fraud seriously, it could not propose leaving two-thirds of the trench units and one-half of the survey units completely untested.

Both the Executive Summary and the body of the Draft Plan exhibit how the Navy consistently downplays the fraud. The Executive summary states, "[a] conceptual site model (CSM) was developed with current knowledge of the site." (p. i) This is simply untrue. As stated above, the Navy is willfully ignoring eyewitness testimony that has been available for over a year. The body of the Draft Plan does no better: "Following the investigation and removal actions, there were allegations that TtEC potentially manipulated and falsely represented data." (p.2-1).

Two years ago there were "allegations." Now, taking the affidavits of the whistleblowers and the results of the Navy's data review (which was intended to validate Tetra Tech's data but did the opposite) and EPA's review, as well as the criminal sentencing of two Tetra Tech supervisors, there can be no doubt that massive fraud took place throughout the shipyard.

It may be understandable that the Navy wants to soft-peddle the fraud, as they could have and should have prevented it and once suspicions arose they could have and should have conducted a competent investigation. The Navy's approach has been characterized by a long-running failure to acknowledge the seriousness of the fraud and its impact on the cleanup.

The Draft Plan continues this failure. For example, the Draft Plan claims that there is uncertainty about the sampling and data fraud, stating, "Allegations of previous sample collection fraud, improper sample and document custody/controls, and data manipulation could indicate that contamination was potentially left at the site" (p. iii).But, as stated above, the whistleblowers have sworn they participated in massive fraud under oath. "Could indicate" is inaccurate. Their testimony proves without doubt that significant contamination was left at the site un-remediated and that improperly remediated soil may have contaminated sites that had not previously been tainted. This needs to be investigated in Parcel G and the other places Tetra Tech worked.

b. The Navy's Suggestion of Over-Remediation Is Sheer Speculation

While characterizing proven facts as uncertainties, the Navy indulges in pure speculation, making the astonishing assertion that, "[t]he previous work relied on a quicker, less accurate method for analyzing radium-226 (226Ra). This method was known by stakeholders at the time to be biased high. A large amount of soil (estimated 80 percent) was likely mischaracterized as contaminated (Argonne National Laboratory, 2011)."

In other words, the Navy now claims that notwithstanding the fraud, things aren't as bad as they seem. 80% of the soil characterized as contaminated wasn't!

Never mind that the alleged stakeholders are not identified and the Navy offers no evidence of agreement among them. Never mind that the Argonne National Laboratory report cited has not been made available to the public by the Navy so we cannot test this dubious assertion.

Similarly, the body of the Draft Plan claims the onsite lab was biased high: "In addition, the onsite laboratory used a screening method[2] to analyze radium-226 (226Ra) that may have reported at levels higher than actual radioactivity. TtEC presented CSMs in removal action completion reports that were based on potentially falsified data and screening results for 226Ra reported by the onsite laboratory (results were often biased high)."

Footnote 2 states:

> "Analytical results for 226Ra were reported by the onsite laboratory using a screening method based on the 186 kiloelectron volt (keV) energy peak. The offsite laboratory analyzed 226Ra using a definitive method (EPA 901.1 comparable method), allowing the soil samples to equilibrate (21-day in-growth) and reported concentrations using the 609 keV energy peak for bismuth-214 (214Bi) because 214Bi is in secular equilibrium with 226Ra. Comparisons between the onsite laboratory screening results and the offsite laboratory definitive results for 226Ra demonstrate the onsite laboratory results were consistently biased high. The 226Ra analytical results from the onsite laboratory resulted in false exceedances of the RGs, which resulted in the initiation of remediation. Remediation may have been avoided had soil samples been allowed to equilibrate (21-day in-growth) and decisions had been based on the more reliable 214Bi analysis using the 609 keV energy peak."

In other words, the Navy claims it over-remediated for radium-226 in 80% of the remediated soil. This assertion inadvertently illustrates the Navy's conundrum. Either it wasted millions upon millions of dollars to clean up contaminated soil that wasn't really contaminated or the Conceptual Site Model on which the Draft Plan rests is demonstrably wrong. Either serves as an acknowledgement of the Navy's technical incompetence and the waste of time and money that resulted from it.

The Navy's claim the onsite laboratory method was improperly biased is hardly reassuring. The Navy itself approved the laboratory methods. If the Navy finds

fault with the methods now, it only has itself to blame. How many years did it rely on methods whose results it wants to explain away?

Additionally, the Navy acknowledges the method was "quicker." The Navy must address whether the method it now disowns was wholly or partially selected because it was faster than others to speed production. This would substantiate the whistleblowers testimony.

Although the Navy disparages the onsite laboratory method, the Draft Plan is so imprecise it does not actually state that this method will not be used in future. Nor does it specify what better methods will be used.

The Work Plan is also imprecise when it comes to determining the background level of radium-226. The text of the plan never suggests that any other radionuclide than bismuth could be used as a substitute for radium. Only delving into the footnotes to Table 3-6 does one discover the Navy may also use lead-214, either with bismusth-214 or standing alone. And yet, while the Navy at least attempts to demonstrate the bismuth equivalency, it does not even bother as to lead-214. It must.

Despite what the Plan implies by describing the radium-226 method it intends to use as "definitive," the Navy admits it will not use an approved EPA method. Rather, it will use an unspecified "comparable" method. If the Navy relies on this "comparable" method, it must identify it and demonstrate that it is, indeed, comparable.

c. The Navy Should not Speculate About Sources of Radioactivity

The Navy claims that a third uncertainty is: "[t]he RGs used previously are within background ranges. Therefore, soil that was considered contaminated could

have been attributable to naturally occurring radioactivity or anthropogenic fallout (Argonne National Laboratory, 2011)." The Navy should either report data to demonstrate that naturally occurring radioactivity or fallout impact the cleanup rather than speculate that it "could have been."

In addition, Table 2-1 needs to be corrected. For example, under "current status" it says, "All known sources removed by Navy using standards at the time. Follow-up investigations resulted in removal of small volumes of soil to meet current RGs." However, the "follow up investigations" are left undescribed, not even saying how many "investigations" were conducted, let alone who conducted them. Nor do are the "results" that prompted additional remediation reported. Similarly, Table 2-1 states, "Trench excavations that have been backfilled now contain homogenized soil from onsite fill, offsite fill, or a mixture of both." This statement ignores the certainty that "onsite fill" may have still contained levels of contaminants exceeding the RGs when it was used as fill, the result of fraudulent soil scanning. Table 2-1 also is consistent with the rest of the Draft Plan in the way it minimizes the fraud; the only reference to it is, "Potential for data manipulation or falsification."

Again, the witness testimony and the Navy's and EPA's data reviews prove that the data falsification was real and extensive, not "potential."

D. Section 3 – The Soil Investigation Design and Implementation Is Inadequate

1. Data Quality Objectives

Section 3.1 of the Draft Plan states,"[t]he primary objective is to determine whether site conditions are compliant with the Parcel G ROD RAO (Navy, 2009)" (p.3-1).

Step 5 of Section 3.1 indicates that if RGs are exceeded, "then the data will be evaluated to determine whether site conditions are protective of human health using USEPA's current guidance on Radiation Risk Assessment at Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sites (USEPA, 2014). A Removal Site Evaluation Report will be developed to include recommendations for further action."

RGs are set precisely to be "protective of human health." The Navy does not explain why it intends to conduct this additional risk assessment rather than do what is called for: remediate all soil and buildings that exceed the RGs. Given the history of the remediation and the approach of the Draft Plan, it is difficult not to conclude that this is yet another attempt to minimize the problem, and thus minimize the remediation necessary for free release.

Step 6 of Section 3.1 states: "If any 226Ra gamma spectroscopy concentration is greater than the RG for 226Ra, then the soil sample will be analyzed for 238U and 226Ra using comparable analytical methods (e.g., alpha spectrometry for 238U and radon emanation for 226Ra). For that specific sample, the 238U alpha spectrometry result will be used as a more representative estimate of the background value for 226Ra, and the alpha spectrometry comparable result for 226Ra will be compared to the RG for 226Ra using the revised background value" (p.vi). In other words, the calculation of radium background levels depends on the uranium results.

However, the Navy has offered insufficient validation data for this switch. Its explanation for why uranium background levels provide more reliable data on radium background is unconvincing. Even assuming substituting uranium for radium is

appropriate, the Navy offers no evidence that uranium-238 alpha spectroscopy provides "a more representative estimate of the background value of 226Ra" than Ra-226 gamma spectroscopy. If that is the case, the Navy should provide the evidence.

In addition, as stated, there is evidence that the shipyard was impacted by uranium. Thus, it must be included in the list of ROCs. As an ROC, it should not be the basis for calculating background levels of any other ROC.

Step 7 of Section 3.1 reiterates the Executive Summary's admission the Navy has no intention to resample all of Tetra Tech's work. This subject will be addressed in comments below. Section 3.1 also repeats the phrase "man-made background," an issue already addressed above. (See Section IVB.)

Section 3.2 addresses Radionuclides of Concern. As stated above, the list of ROCs must be augmented to reflect what is now known about the radionuclides that impacted the shipyard. The Navy must add instruments that can identify alpha and beta radiation, as needed, to investigate the presence of the expanded list of ROCs.

Section 3.4 describes the design of the radiological investigation. It states, "[t]he radiological investigation design is primarily based on methods, techniques, and instrument systems in *the Basewide Radiological Management Plan* (TtEC, 2012)." Like the Argonne National Laboratory reference, this Management Plan was not provided by the Navy even though it is relied on by the Draft Plan.

Sections 3.44 through 3.7 address the proposed two-phase approach to soil sampling. As argued below, this approach is further evidence the Navy will jettison the commitments made publicly to resample all of Tetra Tech's work. Phase I must be

applied to 100% of the sites Tetra Tech worked on rather than mere fractions of them. If that is done, Phase II must be reconsidered.

Section 3.5, on instrumentation, must be augmented to account for an expanded list of ROCs to include equipment that can investigate alpha and beta radiation as well as gamma.

In numerous places, the Draft Plan indicates scanning will be done with sodium iodide (NaI) detectors. (See, for example, Section 3.5.1.) However there is no justification for using NaI detectors when there are more sensitive instruments available. High Purity Germanium (HPGe) detectors are an alternative that are much more sensitive than other hand held instruments, for example. The Draft Plan should discuss what equipment was considered and should state the reasons for the selection.

Section 3.6 describes the radiological investigation implementation. It starts by listing the seven types of subcontractors that will provide support services. There is an eighth that must be added: a verification subcontractor to observe and videotape the other contractors, particularly those doing sampling and scanning, to assure there is no possibility of fraud in future. Greenaction strongly urges the Navy to require that any verification contractor hire and train residents of the Bayview Hunters Point communities for this purpose. This will serve three positive goals: preventing fraud; providing jobs; and building trust; approaching fraud prevention in a way that relies on local community members and can, in turn, inform and build trust among the broader public.

Furthermore, the training plan is deficient in in that it perpetuates the Navy's minimization of the fraud. Nowhere does the Draft Plan require that all contractors'

personnel be informed of the types of fraud Tetra Tech committed, that improper practices will not be tolerated and they will be observed and videotaped to assure the integrity of the investigation.

2. Phase I Soil

The Navy claims that, "[a] phased investigation approach is presented in this work plan that was designed to provide a high level of confidence that current site conditions either comply or do not comply with the Parcel G ROD RAO (Navy, 2009)" (p. iv). We hope the Navy considers public comments and significantly alters the plan to provide a basis for that confidence. To the contrary, the current plan undermines it.

If the history of the Tetra Tech fraud and the Navy's complicity in it teaches anything, it is that the Navy has always been overconfident. It was confident Tetra Tech could investigate itself. It was confident in the accuracy of Tetra Tech's false conclusion that the fraud was narrowly limited. It was confident the whistleblowers were mistaken or lying. It was confident the data review would validate Tetra Tech's data. In each case, the Navy was wrong, its confidence was unwarranted.

The public cannot be confident the Draft Plan will provide adequate data to demonstrate compliance with the ROD. First, as mentioned, the Navy does not plan to even test substantial amounts of soil.

The Navy will not find contamination it refuses to look for. <u>All</u> trench and survey units and any other work or locations worked on by Tetra Tech must be sampled.

The Draft Plan also is significantly deficiency in its lack of specificity about the handling of backfilled soil and soil excavated from side walls (and bottoms). If contaminated backfilled soil and side wall soil are mixed, previously uncontaminated soil may become contaminated. The Draft Plan must require that backfilled soil and side wall soil be segregated, scanned and cleared separately.

Other problems also bedevil Phase I. The Draft Plan states, "The targeted TUs and SUs were selected based on the highest potential for radiological contamination," based on, "[h]istorical documentation of specific potential upstream sources, spills, or other indicators of potential contamination," and "[s]igns of potential manipulation or falsification from the soil data evaluation" (p. iv).

Again, the historical record on which the Draft Wok Plan relies is demonstrably wrong. Again, the Navy claims it will use the best data while simultaneously ignoring the best evidence available to it.

Furthermore the Navy claims it can use signs of manipulation and falsification in the "soil data evaluation" of Tetra Tech's data to target Phase I resampling. That can only be true if the Navy ignores the EPA's review of the Parcel G soil data evaluation, which found 97% of the data to be suspect. Precisely how the Navy will use data that is 97% unreliable to target one-third of the trench units and half the survey units is left unexplained.

The two factors the Navy claims it can use to narrow Phase I soil sampling are patently false. There is no rational basis stated in the Draft Plan on which to select samples sites with "the highest potential for radiological contamination."

Furthermore, the Work Plan says the sanitary and storm water sewer systems "will be gamma scanned." Gamma scanning is necessary but insufficient. As discussed above, the number of radionuclides of concern (ROCs) must be significantly expanded to account for the true historical evidence. Gamma scanning cannot identify all of the ROCs that should be included. Consequently, scanning for alpha and beta radiation will be necessary.

3. Phase II Soil

As stated, Phase II must be reconsidered in light of the changes necessary to Phase 1. However, assuming Phase II as described is relevant, the plan states that, "subsurface soil samples will be collected via borings. The borings will be advanced beyond the floor boundary of the trench or to the point of refusal. Gamma scans of the core will be conducted" (p. v.).

Although the Navy agrees to excavate and scan100% of the soil from the sewer systems in Phase I, it plans no such comprehensive effort during Phase II. It does not even attempt to explain why.

Borings alone are completely inadequate. They will not provide sufficiently comprehensive information to properly investigate the exceptional history of radiation contamination in Parcel G, including the likelihood that fraudulent practices resulted in contaminating soils and areas that were not previously contaminated.

And, as mentioned, the plan to limit scanning to gamma radiation is inappropriate to the expanded number of ROCs an updated understanding of the historical record will identify.

E. Section 4 - Building Investigations

"Buildings will be divided into SUs, and the size and boundary of the SUs will be based on the previous plans and reports" (p. v.) These "plans and reports" go unidentified. The Draft Plan must provide a factual rationale for the size and borders of the building SUs.

The Draft Plan also states that only the interior of buildings will be scanned, but gives no rational basis for excluding exteriors. The Draft Plan must either include building exteriors or justify excluding them.

In addition, according to Figure 4-1, building background reference samples will be taken from Building 401, a building that has been radiologically impacted. This location is apparently justified by the Navy's assertion that the first floor was not impacted. It defies the imagination that there is not a more suitable location. Perhaps from a building no part of which was ever impacted? Like many other portions of the Draft Plan there is a paucity of information, this time on the building background sample selection process. It should be fully described, including justification for the site or sites selected.

Section 4.5.5 calls for portable survey instruments to be calibrated at least once a year. This is far too long a period to demonstrate to a distrustful community that data will be developed using properly calibrated instruments. The Navy should propose a shorter time period between calibrations and the rationale for its choice.

F. Section 5 – Data Evaluation and Reporting

Section 5.2 states, "The effort expended during DQA should be consistent with the graded approach used to develop the survey design." The Navy should explain

what "graded approach" means. This section also contains an unnecessarily complex set of calculations to calculate equivalents of different units of measure. Subsection 5.2.2.1 states, "The RGs for buildings surfaces (Table 4-2) are stated in units of dpm/100 cm2 [disintegration(s) per minute per 100 square centimeters]; however, alpha and beta static measurement results will be reported in units of counts during a specified counting interval, while scan measurement results will be reported in units of cpm [counts per minute]." The formula for conversion into dpm/100cm2 follows. The Navy fails to explain why it does not intend to report results as dpm/100cm^2 in the first place.

One glaring shortcoming of the Draft Plan evident throughout is the different treatment given to samples that exceed the RGs and those that do not. Samples below the RG are simply declared compliant with the ROD. No further investigation is called for. In sharp contrast, should a sample exceed an RG, it undergoes additional confirmation. For example, Section 5.2.3 says, "If all measurement or sample results from a TU/SU are below the corresponding radionuclide-specific RG values or corresponding investigation level values, the TU/SU complies with the Parcel G ROD RAO." But Section 5.3.2 states, "The first step in investigating potential areas of elevated activity is to confirm the measurement or sample results that indicated the potential area of elevated activity." A similar provision applies to buildings (See Draft Plan Section 4.1).

We agree validation of sample results is essential. Why then is there no parallel requirement that any samples initially determined to be below the RGs undergo further investigation as well? It is equally likely that sample and analysis variability will result

in lower readings as higher ones. The difference in treatment is an example of how the Navy will go to some lengths to attempt to disprove an elevated reading while making no similar efforts to see if non-elevated readings could be just as wrong.

Section 5.2 goes on to state, "In most cases, at least one measurement or sample result documenting the lack of elevated activity will be required to support a decision to terminate the investigation of a potential area of elevated activity." One of how many? If there are multiple samples that exhibit elevated activity but one that does not, is the decision to terminate the investigation justified?

G. Section 7 – Waste Management Plan

Section 7.5 relates to compliance with CERCLA's Offsite Rule. It says "the contractor will request proof of Offsite Rule approval from the offsite disposal facility before transferring any wastes to an offsite facility." What it doesn't say is that the approval actually is granted and proof of it must be presented before the transfer. It must.

V. CONCLUSION

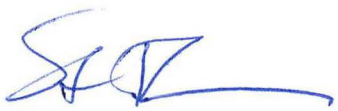
The Draft Parcel G Work Plan is woefully deficient. It must be revised to incorporate these comments and those of other interested members of the community. If not, the community can add just another occasion to the many, many before it over the years that the Navy has lied to them.

Laura Duchnak, director of the Navy's Base Realignment and Closure Program, acknowledged in writing in a victim-impact statement for the sentencing of one of Tetra Tech's supervisors that the community has lost all faith in the Navy's

ability to do a proper cleanup. The distressing deficiencies in the Draft Plan and the corner-cutting evident in it, only deepen distrust.

The Draft Plan must be wholly reworked so that all of the sites Tetra Tech worked on will be fully resampled, as the Navy promised.

Respectfully submitted,



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